

Sowela Technical Community College

Master Course Outline

Course Name: General Physics 2

Course Number: PHYS 2200

Lecture contact hours: 45

Lab contact hours: 0

Semester Contact Hours: 45

Semester Credit Hours: 3

Catalog Description:

Fundamental principles of electricity, magnetism, optics, and selected topics of modern physics.

Prerequisites: PHYS 2100 (General Physics 1)

Co-requisites: None

Required Textbook and Supplies:

College Physics, 7th edition, by Jerry Wilson, Anthony Buffa, and Bo Lou, Addison-Wesley, 2010.

All students must have a scientific calculator.

Student Learning Outcomes:

Upon successful completion of this course, the student will be able to

- Impart an understanding of the basic concepts of physics including electricity, magnetism, optics, relativity, and nuclear physics
- Explain and apply these principles to everyday life
- Use scientific reasoning and mathematical applications to solve a variety of problems

Assessment Measures:

Four instructor-designed unit exams	100 pts. each (drop lowest score)
Unit exams include both theoretical concepts and mathematical applications of those concepts.	
In-class activities and homework assignments	100 points
Comprehensive final exam	100 points
Research paper	100 points
Quizzes (focus on mathematical examples)	<u>100 points</u>
Total	700 points

Expanded Course Outline:

- Electric charge, forces, and fields
- Electric potential, energy, and capacitance
- Electric current and resistance
- Basic electric circuits
- Magnetism
- Electromagnetic induction and waves
- AC circuits
- Reflection and refraction of light
- Wave nature of light
- Relativity
- Quantum mechanics and atomic physics
- Nuclear reactions